**Experimental Results:**

**MinMax Scaler**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Models | 500 | 1000 | 1500 | 2000 | 2500 | 5000 | 6000 | 7000 | 8000 |
| Logistic Regression | 58.6 | 61.6 | 60.67 | 61.33 | 58.53 | 59.67 |  |  |  |
| 52.6 | 62.6 | 60.67 | 61.83 | 59.06 | 59.67 |  |  |  |
| Decision tree | 51.3 | 60.3 | 54 | 55.33 | 53.73 | 58.67 |  |  |  |
| 54 | 56.3 | 55.1 | 57 | 59.2 | 58.267 |  |  |  |
| Gaussian Bayes | 60.6 | 63.6 | 61.33 | 65.16 | 61.4 | 61.4 |  |  |  |
| 59.3 | 65 | 61.55 | 65.33 | 61.33 | 61.5 |  |  |  |
| SVC | 57.3 | 69 | 68.44 | 69 | 68.8 | 71.06 |  |  |  |
| 58.6 | 69.67 | 70.22 | 68.16 | 68.93 | 70.86 |  |  |  |
| XGBoost | 56 | 66.3 | 64.22 | 68 | 68 | 70.67 |  |  |  |
| K nearest neighbours | 56 | 58 | 64.6 | 58 | 62.93 | 64.4 |  |  |  |
| 53 | 66.6 | 65.78 | 66.16 | 65.73 | 67.06 |  |  |  |
| ADA boost | 50.6 | 41.6 | 33.77 | 44.5 | 42.6 | 54.93 |  |  |  |
| 58 | 59.6 | 59.5 | 56.5 | 55.73 | 59.6 |  |  |  |
| Gradient boosting | 50.6 | 60 | 59.5 | 62.8 | 61.2 | 64.06 |  |  |  |
| Bagging Classifier | 56.6 | 68.6 | 68 | 66.1 | 67.0 | 69.4 |  |  |  |
| Random Forests | 52.6 | 60.3 | 57.7 | 60 | 57.3 | 58.4 |  |  |  |
| 54.6 | 65 | 59.7 | 63.1 | 59.4 | 60.2 |  |  |  |
| Extra trees | 52 | 53 | 59.5 | 56.67 | 59.4 | 57.9 |  |  |  |
| 50 | 60.3 | 57.11 | 59.16 | 57.3 | 58.4 |  |  |  |
| Convolutional neural networks | 32 | 28.3 | 31.3 | 29 | 31.73 | 31.6 |  |  |  |
| Multilayer perceptron | 62 | 67.6 | 66.8 | 68.6 | 68.9 | 70.2 |  |  |  |
| 62.6 | 66.33 | 70 | 67.16 | 69.2 | 70.3 |  |  |  |

**Standard Scalar**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Models | 500 | 1000 | 1500 | 2000 | 2500 | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
| Logistic Regression | 56 | 61 | 60.44 | 61.33 | 58.53 | 59.73 |  |  |  |  |  |
| 56.67 | 62.33 | 60.67 | 61 | 58.53 | 59.8 |  |  |  |  |  |
| Decision Tree | 54.67 | 55.67 | 52.67 | 55 | 55.86 | 57 |  |  |  |  |  |
| 54 | 56.33 | 55.11 | 59 | 59.2 | 58.33 |  |  |  |  |  |
| Gaussian Bayes | 60.67 | 63.67 | 61.33 | 65.16 | 61.46 | 61.4 |  |  |  |  |  |
| 59.33 | 65 | 61.55 | 65.33 | 61.33 | 61.53 |  |  |  |  |  |
| SVC | 57.33 | 69 | 68.22 | 69.67 | 69 | 71.2 |  |  |  |  |  |
| 57.33 | 69 | 68 | 68.83 | 69 | 69.6 |  |  |  |  |  |
| XGBoost | 56.67 | 66.33 | 64.67 | 68.16 | 68 | 70.67 |  |  |  |  |  |
| K nearest neighbours | 56 | 56.67 | 64.67 | 59.83 | 62.93 | 64.6 |  |  |  |  |  |
| 56 | 67 | 66.22 | 66.16 | 66.13 | 67.46 |  |  |  |  |  |
| ADA boost | 50.6 | 41.6 | 33.7 | 44.5 | 42.67 | 54.9 | 59.33 | 59.6 | 59.16 | 58 | 60.3 |
| 58 | 59.6 | 59.5 | 56.5 | 55.73 | 59.6 | 59.5 | 60.3 | 59.916 | 60.6 | 60.4 |
| Gradient boosting | 50.6 | 60 | 59.5 | 62.83 | 61.2 | 64 | 63.8 | 63.9 | 64 | 64.11 | 64.9 |
| Bagging Classifier | 57.3 | 69.3 | 67.78 | 66 | 66.53 | 69.33 | 70.3 | 72.09 | 71.91 | 72.11 | 71.8 |
| Random Forests | 52.6 | 60.3 | 57.7 | 60 | 57.34 | 58.4 | 59.5 | 59.09 | 58.91 | 59.88 | 59.4 |
| 54 | 65 | 59.5 | 62.5 | 60 | 59.33 | 61.5 | 60.09 | 59 | 60.6 | 60.1 |
| Extra trees | 53.3 | 49.6 | 57.1 | 58.6 | 54.13 | 59.26 | 59.8 | 57.61 | 59.8 | 60.55 | 60.6 |
| 52 | 60.3 | 57.7 | 60.16 | 57.33 | 58.46 | 59.5 | 59.2 | 58.9 | 60 | 59.6 |
| Convolutional neural networks | 32 | 28.3 | 31.33 | 29 | 31.73 | 31.67 | 31.28 | 31.05 | 31.5 | 31.1 | 30.46 |
| Multilayer perceptron | 63.3 | 69.6 | 69.11 | 69 | 67.06 | 70.6 | 71.33 | 73 | 72.20 | 72.404 | 73.33 |
| 56 | 64.3 | 67.55 | 69.3 | 68.6 | 70.4 | 72 | --- | --- | ---- | ---- |